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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.               | CONFIRMATION NO.       |
|--|-------------|----------------------|-----------------------------------|------------------------|
| 10/763,647   | 01/23/2004  | Bill L. Looper       | 38190/270316                      | 9390                   |
| 826  | 7590        | 06/01/2007           |                                   |                        |
| ALSTON & BIRD LLP<br>BANK OF AMERICA PLAZA<br>101 SOUTH TRYON STREET, SUITE 4000<br>CHARLOTTE, NC 28280-4000 |             |                      | EXAMINER<br>BAREFORD, KATHERINE A |                        |
|  |             |                      | ART UNIT<br>1762                  | PAPER NUMBER           |
|  |             |                      | MAIL DATE<br>06/01/2007           | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|   |                                   |                               |  |
|---|-----------------------------------|-------------------------------|--|
| <b>Advisory Action</b><br><b>Before the Filing of an Appeal Brief</b> | Application No.<br>10/763,647     | Applicant(s)<br>LOOPER ET AL. |  |
|   | Examiner<br>Katherine A. Bareford | Art Unit<br>1762              |  |

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 29 May 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 4 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: 1-5, 7-16, 18 and 20-25.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

#### AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_.  
13. ☐ Other: \_\_\_\_\_.

Continuation of 11. does NOT place the application in condition for allowance because: applicant argues that the relief angle is not a result-specific variable, as there is not an "optimum" relief angle or a "workable range" of relief angles and the Examiner has not shown that the prior art recognizes that any particular relief angle is better than another. Applicant argues that the relief angle of the claimed invention is chosen to remove less material than previous routers, and it is the combination of the shallow relief angle and conical bottom surface that is advantageous over the the prior art routers. Applicant also refers to a decision from the Board of Appeals as being instructive. The Examiner has reviewed applicant's arguments, however, the rejection is maintained. As discussed in the Final Rejection of Jan. 30, 2007 (see pages 9-10, for example), the combination of the prior art provides that (a) when routing out material from a surface it is known to vary the relief angle on the router bit and that when routing out material, the shape of the bottom surface routed out corresponds to the shape of the cutting edge of the bit (including the relief angle), and thus varying the relief angle correspondingly varies the amount of material removed and the shape of the material removed. (as provided by Johnson and Shallenberger). Therefore, the relief angle of the bit is clearly a variable, and it is also a result-effective variable -- one that achieves a recognized result (as per MPEP 2144.05) of changing the amount and shape of material removed. (b) Furthermore, the combination of prior art in the case teaches to control the material removed based on the specific amount of damage present in the area to be repaired and to also base the operating conditons of the router on the specific router used, the material to be cut and its thickness. Kottlingham, for example, teaches to remove damaged area based on the specific size of the defect to be removed and that a conical depth (or bottom) of the groove formed is desirable for better fusion. This clearly indicates the desire to optimize the amount and shape of the excavation of material for best results. Since, as discussed in (a), the relief angle iis a result-effective variable in the control of the amount and shape of material removed using a router, the suggested optimization of the amount and shape of the material removed would include optimizing the relief angle. Applicant has made no showing of unexpected results of the particular angle claimed over the suggested optimization. The Board decision does not apply as (1) it is unpublished, and (2) in the present case there is a suggestion to optimize the amount and shape of the material removed, and thus to optimize the relief angle..

  
KATHERINE BAREFORD  
PRIMARY EXAMINER